

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claims 1-38 (cancelled)

39. (new)

A semiconductor device comprising:

a sealing member formed of an insulating resin;

a semiconductor element sealed by the sealing member;

a plurality of terminals formed by a metal film and exposed to a back surface of the sealing member; and

conductive wires positioned within the sealing member, ends on one side of the conductive wires being connected respectively to electrodes formed over the semiconductor element and opposite ends thereof being connected respectively to the terminals,

wherein the plural terminals are arrayed in plural rows and plural columns around the semiconductor element, and

wherein a back surface of the semiconductor element, back surfaces of the terminals and the back surface of the sealing member lie over one and same plane, and the back surface of the semiconductor element and the back surfaces of the terminals are exposed from the sealing member.

40. (new) A semiconductor device comprising:

a sealing member formed of an insulating resin;

a semiconductor element sealed by the sealing member:

a plurality of terminals formed by a metal film and exposed to a back surface of the sealing member; and

conductive wires positioned within the sealing member, ends on one side of the conductive wires being connected respectively to electrodes formed over the semiconductor element and opposite ends thereof being connected respectively to the terminals,

wherein the plural terminals are arrayed in plural rows and plural columns around the semiconductor element,

wherein an insulating adhesive is provided over the back surface of the semiconductor element, a back surface of the adhesive, the back surfaces of the terminals and the back surface of the sealing member lie over one and same plane, and the back surface of the adhesive and the back surfaces of the terminals are exposed from the sealing member.

41. (new) A semiconductor device according to claim 40, wherein the adhesive is an adhesive tape.

42. (new) A semiconductor device comprising:
a sealing member formed of an insulating resin;
a semiconductor element sealed by the sealing member;
a plurality of terminals formed by a metal film and exposed to a back surface of the sealing member; and
conductive wires positioned within the sealing member, ends on one side of the conductive wires being connected respectively to electrodes formed over the semiconductor

element and opposite ends thereof being connected respectively to the terminals,

wherein the plural terminals are arrayed in plural rows and plural columns around the semiconductor element, and

wherein the terminals each comprise a main metal layer and one or plural auxiliary metal layers formed over a main surface of the main metal layer or over both the main surface and a back surface of the main metal layer.

43. (new) A semiconductor device comprising:
a sealing member formed of an insulating resin;
a semiconductor element sealed by the sealing member;
a plurality of terminals formed by a metal film and exposed to a back surface of the sealing member; and
conductive wires positioned within the sealing member, ends on one side of the conductive wires being connected respectively to electrodes formed over the semiconductor element and opposite ends thereof being connected respectively to the terminals,

wherein the plural terminals are arrayed in plural rows and plural columns around the semiconductor element, and

wherein the terminals each comprise a main metal layer and one or plural auxiliary metal layers formed over a main surface of the main metal layer or over both the main surface and a back surface of the main metal layer, one of the auxiliary metal layers formed over the main surface of the main metal layer having a rough surface to provide a rough surface of each of the terminals.

44. (new) A semiconductor device comprising:
a sealing member formed of an insulating resin;
a semiconductor element sealed by the sealing member;
a plurality of terminals formed by a metal film and
exposed to a back surface of the sealing member; and
conductive wires positioned within the sealing member,
ends on one side of the conductive wires being connected
respectively to electrodes formed over the semiconductor
element and opposite ends thereof being connected
respectively to the terminals,
wherein the plural terminals are arrayed in plural rows
and plural columns around the semiconductor element, and
wherein a plurality of semiconductor elements are
sealed within the sealing member.

45. (new) A semiconductor device comprising:
a sealing member formed of an insulating resin;
a semiconductor element sealed by the sealing member;
a plurality of terminals formed by a metal film and
exposed to a back surface of the sealing member; and
conductive wires positioned within the sealing member,
ends on one side of the conductive wires being connected
respectively to electrodes formed over the semiconductor
element and opposite ends thereof being connected
respectively to the terminals,
wherein the plural terminals are arrayed in plural rows
and plural columns around the semiconductor element, and

wherein a plurality of semiconductor elements are sealed within the sealing member, and at least a portion(s) of the semiconductor elements is (are) fixed superimposedly over the other semiconductor element(s).

46. (new) A semiconductor device comprising:
a sealing member formed of an insulating resin;
a semiconductor element sealed by the sealing member;
a plurality of terminals formed by a metal film and exposed to a back surface of the sealing member; and
conductive wires positioned within the sealing member, ends on one side of the conductive wires being connected respectively to electrodes formed over the semiconductor element and opposite ends thereof being connected respectively to the terminals,

wherein the plural terminals are arrayed in plural rows and plural columns around the semiconductor element,

wherein a peelable, flexible tape is affixed to the back surface of the sealing member, and

wherein the tape is a band-like tape, the sealing member is formed at predetermined intervals in a longitudinal direction of the tape, and the tape is wound round a reel.

47. (new) A method of manufacturing a semiconductor device, comprising the steps of:

providing a flexible tape having a plurality of terminals in a product forming portion formed over a main

surface of the tape, the terminals being formed by a metal film;

fixing a semiconductor element to the main surface of the tape;

connecting electrodes formed over the semiconductor element and the terminals with each other through conductive wires;

forming an insulating resin layer in an area including the semiconductor element and the wires over the main surface of the tape to cover the semiconductor element and the wires; and

peeling the tape from the insulating resin layer after covering the semiconductor element and the wires with the insulating resin layer,

wherein the semiconductor element is bonded to the tape through an insulating adhesive which is stronger in its adhesion to the semiconductor element than in its adhesion to the tape, and in the step of peeling the tape from the insulating resin layer, the tape is peeled while allowing the adhesive to remain over a back surface of the semiconductor element.

48. (new) The method according to claim 47, wherein the adhesive is an adhesive tape.

49. (new) A method of manufacturing a semiconductor device, comprising the steps of:

providing a flexible tape having a plurality of terminals in a product forming portion formed over a main surface of the tape, the terminals being formed by a metal film;

fixing a semiconductor element to the main surface of the tape;

connecting electrodes formed over the semiconductor element and the terminals with each other through conductive wires;

forming an insulating resin layer in an area including the semiconductor element and the wires over the main surface of the tape to cover the semiconductor element and the wires; and

peeling the tape from the insulating resin layer after covering the semiconductor element and the wires with the insulating resin layer,

wherein the product forming portion comprises a semiconductor element fixing tape surface for fixing the semiconductor element and a plurality of terminals arranged around the semiconductor element fixing tape surface.

50. (new) A method of manufacturing a semiconductor device, comprising the steps of:

providing a flexible tape having a plurality of terminals in a product forming portion formed over a main surface of the tape, the terminals being formed by a metal film;

fixing a semiconductor element to the main surface of the tape;

connecting electrodes formed over the semiconductor element and the terminals with each other through conductive wires;

forming an insulating resin layer in an area including the semiconductor element and the wires over the main surface of the tape to cover the semiconductor element and the wires; and

peeling the tape from the insulating resin layer after covering the semiconductor element and the wires with the insulating resin layer,

wherein the tape is a band-like tape, and the fixing of the semiconductor element, the connection of the wires and the formation of the insulating resin layer are performed in this order in the longitudinal direction of the tape, and thereafter the tape is wound round a reel.

51. (new) A method of manufacturing a semiconductor device, comprising the steps of:

providing a flexible tape having a plurality of terminals in a product forming portion formed over a main surface of the tape, the terminals being formed by a metal film;

fixing a semiconductor element to the main surface of the tape;

connecting electrodes formed over the semiconductor element and the terminals with each other through conductive wires;

forming an insulating resin layer in an area including the semiconductor element and the wires over the main surface of the tape to cover the semiconductor element and the wires; and

peeling the tape from the insulating resin layer after covering the semiconductor element and the wires with the insulating resin layer,

wherein a plurality of semiconductor elements are fixed to the product forming portion.

52. (new) A method of manufacturing a semiconductor device, comprising the steps of:

providing a flexible tape having a plurality of terminals in a product forming portion formed over a main surface of the tape, the terminals being formed by a metal film;

fixing a semiconductor element to the main surface of the tape;

connecting electrodes formed over the semiconductor element and the terminals with each other through conductive wires;

forming an insulating resin layer in an area including the semiconductor element and the wires over the main surface of the tape to cover the semiconductor element and the wires; and

peeling the tape from the insulating resin layer after covering the semiconductor element and the wires with the insulating resin layer,

wherein a plurality of semiconductor elements are fixed to the product forming portion.

53. (new) A method of manufacturing a semiconductor device, comprising the steps of:

providing a flexible tape having a plurality of terminals in a product forming portion formed over a main surface of the tape, the terminals being formed by a metal film;

fixing a semiconductor element to the main surface of the tape;

connecting electrodes formed over the semiconductor element and the terminals with each other through conductive wires;

forming an insulating resin layer in an area including the semiconductor element and the wires over the main surface of the tape to cover the semiconductor element and the wires; and

peeling the tape from the insulating resin layer after covering the semiconductor element and the wires with the insulating resin layer,

wherein the terminals each comprise a main metal layer and one or plural auxiliary metal layers formed over a main surface of the main metal layer or over both the main surface and a back surface of the main metal layer.

54. (new) The method according to claim 53, wherein an auxiliary metal layer having a rough surface is formed over the main surface of the main metal layer to provide a rough surface over the main surface side of each of the terminals.

55. (new) The method according to claim 53, wherein the auxiliary metal layer over the main surface of each of the terminals is formed by a gold layer, or the outermost auxiliary metal layers over the main surface and the back surface of each of the terminals are formed by gold layers.

56. (new) The method according to claim 53, wherein the main metal layer is a copper layer.

57. (new) A method of manufacturing a semiconductor device, comprising the steps of:

providing a flexible tape having a plurality of terminals in a product forming portion formed over a main surface of the tape, the terminals being formed by a metal film;

fixing a semiconductor element to the main surface of the tape;

connecting electrodes formed over the semiconductor element and the terminals with each other through conductive wires;

forming an insulating resin layer in an area including the semiconductor element and the wires over the main surface of the tape to cover the semiconductor element and the wires; and

peeling the tape from the insulating resin layer after covering the semiconductor element and the wires with the insulating resin layer,

wherein, of the steps of fixing the semiconductor element, connecting the wires and forming the insulating resin layer, one or plural steps are carried out while holding a back surface of the tape by vacuum suction.